The drawings were objected to because the notations and units defining the X and Y axes of the graphs were not translated into English. A proposed Drawing Amendment is submitted herewith. The German legends have been removed and English legends have been supplied. No new matter has been added as there is ample support for the legends in page 29 of the specification (which has been cancelled herein) and in the paragraph bridging pages 19 and 20. Further, new drawings of an informal nature, implementing this change are submitted herewith.

In a brief telephone interview with Examiner Gabel on or about June 28, 2001, the undersigned inquired concerning the requirement for drawings in two months when in fact an office action requiring a response in three months has been issued. During that telephone conference, Examiner Gable indicated that responding to the drawing requirement in the time allowed for response to the office action would be acceptable. As noted below, the term response has been extended by two months. Thus, it is respected submitted that this extension also covers the time for responding to the drawing requirement.

The specification has been amended to label the sections thereof appropriately.

Claims 1-23 were rejected under 35 U.S.C. 112, second paragraph. By amendment herein the claims have been comprehensively revised. It is submitted that the claims are now definite. However, if any minor objections remain,

it is respectfully requested that the Examiner contact the undersigned at the telephone number set forth below.

The rejections of the Claims are set forth in paragraphs 6-10 of the office action and are not repeated herein. However, claim 1 has been amended and is referred to below in the following remarks.

Applicants' invention, as set forth in claim 1, as amended herein, is directed to a method for quantitative or qualitative determination of an analyte or its interaction or reaction kinetics in a system with at least two different phases. The method comprises the steps of exciting a sample which may contain the analyte, and taking at least one measurement signal from at least one of the phases when the different phases are simultaneously present. Each measurement signal is attributed to one of the at least two phases. Very significantly, the determination of the analyte occurs without physical separation between unbonded and bonded label.

Thus, Applicants' invention, has the advantage of permitting the determination of the presence or concentration of an analyte even when the analyte is present in different phases in the sample. This eliminates the need for physically separating the unbonded and bonded label. A description of the problems of the prior art is found in the paragraph bridging pages 3 and 4 the specification. These problems are solved in accordance with the invention. Specific support for the amendment made to claim 1 may be found in the last paragraph of page 4 of the specification.

It is respectfully submitted that none of the art of record teaches or suggest Applicants' invention as set forth in claim 1.

Hargraeves et al. relates to in method for the qualitative and/or quantitative determination of analytes in a two phase system wherein a measurement signal of at least one phase is determined. Hargraves et al. discloses a first aqueous phase comprising a reaction mixture primary layer, and further a second solid phase which comprises a well on a microtitre plate. The detection of the analyte in Hargraeves et al. is based on the separation of the bound label from the unbonded label within the primary layer.

Te Koppele et al. relates to a method for assaying a proteolytic enzyme by incubating an enzyme containing reaction mixture within immobilize florescence quenched peptide on a solid phase, e.g. on a microtitre plate, optionally in the presence of a further phase. After the proteolytic cleavage, the fluorescent fragments remain attached to the insoluble carrier, whereas disturbing components of the reaction mixture include quencher or florescence label are separated from the carrier by washing. The detection of the analyte in Te Koppele et al. is therefore based on the separation of the bound label from the reaction mixture containing disturbing components.

Saunders at al. relates to a method for measuring an analyte within an affinity reaction by adding transparent particles to sample solution or suspension. The analyte is

detected after separating the particle-rich fraction from the particle-free fraction, wherein only one phase is present at the detection of the analyte.

Komives et al. relates to centrifugal systems and methods for the detection of analytes in a multi-phase system. The analytes are detected via dynamic light scattering in one phase after the separation of the different phases.

Dixon et al. relates to an optical detection system, but does not disclose a method for the qualitative or quantitative determination of analytes or the use of quencher in florescence spectras.

It is respectfully submitted that the prior art does not disclose or suggest Applicants' invention. Allowance of Claim 1 is therefore respectfully requested.

The remaining claims each depend from independent Claim 1. These claims recite further limitations, which in combination with the limitations of Claim 1, are not disclosed or suggested in the art of record. For the reasons set forth above with respect to Claim 1, it is respectfully submitted that the dependent claims are also directed to patentable subject matter.

Newly added Claims 33-36 restate preferred ranges or limitations cancelled from Claims 5, 13, 18 and 21, respectively. However, newly added Claims 37-41 provide specific details or embodiments for implementing Applicants' invention as set forth in Claim 1. Examination

of these newly added claims, which serve to further distinguish Applicants' invention from the prior art, is respectfully requested.

Applicant petitions for a two month extension of time in which to file a response to the office action. A check for $400 is enclosed. If any additional fee is required, please charge deposit account no. 01-2213. A duplicate of this page is enclosed.

Respectfully submitted,

David Aker ✓ NOVEMBER 23, 2001

David Aker, Reg. No. 29, 277 Date

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231.

NOVEMBER 23, 2001 David Aker

Date Name of Person Making Deposit

Serial No. 09/492,214 filed: 01/27/00

Appendix

Marked Up Claims

1. (Amended) A method [Method] for quantitative or qualitative determination of an analyte or its interaction or reaction kinetics in a system with at least two different phases, comprising the step of exciting a sample which may contain said analyte, and taking at least one measurement signal from at least one of the phases[, in which case] when the different phases are simultaneously present, [in parallel when the measurement signal is taken and] each measurement signal [is] being attributed to one of the at least two phases, and wherein the determination of the analyte occurs without physical separation between unbonded and bonded label.

2. (Amended) The method [Method] according to Claim 1 in which the method is [conducted as] an affinity assay.

3. (Amended) The method [Method] according to Claim 1 in which the analyte comprises [constitutes] a nucleic acid.

4. (Amended) The method [Method] according to Claim 1 in which the method is [conducted as] an immuno-affinity assay.

5. (Amended) The method [Method] according to Claim 1 in which the volume in which the detection reaction occurs is less than 1 µl[, preferably in the range of 50 to 100 nl].

6. (Amended) The method [Method] according to Claim 1 in which the method is [conducted as] a competitive assay.

7. (Amended) The method [Method] according to Claim 1 in which the method is [conducted as] a sandwich assay.

8. (Amended) The method [Method] according to Claim 1 in which the analyte or the reactant carries a label for generating [by which] the measurement signal [is generated].

9. (Amended) The method [Method] according to Claim 8 in which the measurement signal is generated by irradiation excitement of the label.

10. (Amended) The method [Method] according to Claim 8 in which[, as] the label[,] is a fluorescent label [is provided].

11. (Amended) The method [Method] according to Claim 1 in which a first phase of said at least two different phases is [provided as] a solid phase and a second phase of said at least two different phases is [as] a liquid phase.

12. (Amended) The method [Method] according to Claim 1 in which one of said at least two different phases is a solid phase, and the solid phase is formed on a wall [by walling] of a well in a sample carrier.

13. (Amended) The method [Method] according to Claim 12 in which the carrier is provided in a form of a micro-titre plate[, preferably a nano-titre plate].

14. (Amended) The method [Method] according to Claim 12 in which a well [is provided which] has a quadratic, cylindrical, truncated pyramid or truncated cone shape.

15. (Amended) The method [Method] according to Claim 12 in which a well [is provided whose] has an aperture area and a floor area, the aperture area being [surface which is] smaller than [its] the floor [surface] area.

16. (Amended) The method [Method] according to Claim 15 in which a well [is provided having] has a truncated pyramid or truncated cone shape.

17. (Amended) The method [Method] according to Claim 1 in which a quenching substance is linked to a phase for suppressing measurement signals of one of the at least two phases.

18. (Amended) The method [Method] according to Claim 11 in which a well is provided for said sample, at least one of the wall and floor of said well being [whose walling and/or floor is] coated with a quenching substance[, preferably a fluorescence-quenching substance].

19. (Amended) The method [Method] according to Claim 1 in which at least one measurement signal is obtained by spatially staggered measurement.

20. (Amended) The method [Method] according to Claim 9 in which the sample [quantity containing the] contains a labelled analyte or [the] a labelled reactant, and is

irradiated with a light beam for stimulation of [the] a label in the labelled analyte or the labelled reactant, and [the reacting] radiation [of] from the [labelling] label is [taken] used as a measurement signal.

21. (Amended) The method [Method] according to Claim 20 in which a [the] stimulating light beam is used to stimulate the sample, said stimulating light beam having a diameter in the sample volume [has a diameter] of [<] less than 40 µm[, preferably of about 20 µm].

22. (Amended) The method [Method] according to Claim 20 in which the [exciting] stimulating light beam [for taking a plurality of measurement signals] is conducted via the sample.

23. (Amended) The method [Method] according to Claim 20 in which [stimulation occurs with] a laser provides the stimulating light beam and [as a measurement signal] florescence of the label excited by the laser beam is [taken] used to provide a measurement signal.